(c) contacting the cell lysate with a separation matrix under conditions suitable for the protein to associate with the separation matrix without diluting the protein prior to the contacting;

(d) washing the separation matrix; and

(e) eluting the protein from the separation matrix.

10. A method of purifying a protein expressed in a non-native limited solubility form in *E. coli* comprising:

(a) expressing a protein in a non-native limited solubility form in *E. coli;*

(b) lysing the *E. coli;*

(c) solubilizing the expressed protein in a solubilization solution comprising one or more of the following:

(i) a denaturant;

(ii) a reductant; and

(iii) a surfactant;

(d) forming a refold solution comprising the solubilized protein and a refold buffer, the refold buffer comprising one or more of the following:

(i) a denaturant;

(ii) an aggregation suppressor;

(iii) a protein stabilizer; and

(iv) a redox component;

(e) applying the refold solution to a separation matrix under conditions suitable for the protein to associate with the separation matrix and obtaining a purified protein.

11. The method of claim **8** or **10**, wherein the non-native limited solubility form is a component of an inclusion body.

12. The method of claim **8** or **10**, wherein the protein is a complex protein.

13. The method of claim **12**, wherein the complex protein is selected from the group consisting of: a multimeric protein, an antibody, a peptibody, and an Fc fusion protein.

14. The method of claim **8** or **10**, wherein the non-native limited solubility form is a component of an inclusion body.

15. The method of claim **8** or **10**, wherein the denaturant in the solubilization solution comprises one or more of: urea, guanidinium salts, dimethyl urea, methylurea, and ethylurea.

16. The method of claim **8** or **10**, wherein the reductant comprises one or more of: cysteine, dithiothreitol (DTT), beta-mercaptoethanol, and glutathione.

17. The method of claim **8** or **10**, wherein the surfactant comprises one or more of: sarcosyl and sodium dodecylsulfate.

18. The method of claim **8** or **10**, wherein the aggregation suppressor is selected from the group consisting of: arginine, proline, polyethylene glycols, nonionic surfactants, ionic surfactants, polyhydric alcohols, glycerol, sucrose, sorbitol, glucose, Tris, sodium sulfate, potassium sulfate, and osmolytes.

19. The method of claim **8** or **10**, wherein the protein stabilizer comprises one or more of: arginine, proline, polyethylene glycols, non-ionic surfactants, ionic surfactants, polyhydric alcohols, glycerol, sucrose, sorbitol, glucose, tris, sodium sulfate, potassium sulfate, and osmolytes.

20. The method of claim **8** or **10**, wherein the redox component comprises one or more of: glutathione-reduced, glutathione-oxidized, cysteine, cystine, cysteamine, cystamine, and beta-mercaptoethanol.

21. The method of claim **8** or **10**, wherein the separation matrix is:

an affinity resin selected from the group consisting of: Protein A, Protein G, and synthetic mimetic affinity resin.

22. The method of claim **8** or **10**, wherein the separation matrix is: a non-affinity resin selected from the group consisting of: ion exchange, mixed mode, and a hydrophobic interaction resin.

23. The method of claim **8** or **10**, wherein the refold solution is directly applied to the separation matrix.

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